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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/612,551	07/07/2000	Hiroshi Tanabe	NEC WNZ-2212	9380

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Norman P Soloway
Hayes Soloway Hennessey Grossman & Hage PC
175 Canal Street
Manchester, NH 03101

EXAMINER
EVANS, GEOFFREY S

ART UNIT	PAPER NUMBER
1725	15

DATE MAILED: 05/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/612,551	Applicant(s) TANABE ET AL.	
	Examiner Geoffrey S Evans	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cov r sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 February 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 17-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1,17,18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. in U.S. Patent No. 5,932,118 in view of Mori et al. in Japan Patent No. 7-266,064. Yamamoto et al. discloses a photo processing method for crystallizing an amorphous semiconductor film (e.g. see column 1,line 14) using an excimer laser (see column 8,line 14) and a mask made of a plurality of slits (see figure 9). While Yamamoto recognizes the desirability of using a beam of generally uniform energy distribution (e.g. see column 6,lines 34-35) the reference does not disclose the specific amount that the laser beam is uniform. Mori et al. teaches using a homogenizer

(element 4) to restrict the fluctuations of the energy beam to about 2 to 3 percent (see paragraph 12 of Mori et al.). It would have been obvious to adapt Yamamoto et al. in view of Mori et al. to provide the homogenizer used by Mori et al. to increase the uniformity of the resulting processing of the amorphous semiconductor film.

4. Claims 19,20,21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. in view of Mori et al. as applied to claim 17 above, and further in view of Suzuki in Japan Patent No. 6-267,826. Suzuki teaches using a projection lens (element 15) to project the shape of the light beam emitting from the mask (reticle R) onto the workpiece. It would have been obvious to adapt Yamamoto et al. in view of Mori et al. and Suzuki to replace the imaging lenses (element 6) of Yamamoto et al. with the single projection lens of Suzuki to reduce the number of lenses needed to perform the method.

5. Claims 1,17-21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in Japan Patent No. 6-267,826 in view of Chae in U.S. Patent No. 5,432,122. Suzuki meets all of the limitations of claims 1,17-21 and 22, including a projection lens (element 15), a mask (reticle R), and a beam homogenizer with an illuminance homogeneity of 1 percent (see paragraph 45 and figure 4) except Suzuki does not specifically disclose that the process is being used with a semiconductor thin film forming method. Instead Suzuki teaches that the device can be used to treat a liquid crystal display element (see paragraph 2). Chae teaches that creating a liquid crystal display element by a semiconductor thin film forming method. It would have

been obvious to adapt Suzuki in view of Chae to provide this as a step in creating a semiconductor thin film forming method.

6. Applicant's arguments filed February 21,2003 have been fully considered but they are not persuasive. Applicant argues that Suzuki only discloses an illuminance homogeneity of 1 % and not a range of plus or minus 11.2%. But Suzuki discloses that the precision is 1% (not as the level of illumination), which is the same as saying plus or minus 1%, clearly within the range of plus or minus 11.2 % recited in claims 1 and 22 of the instant application.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kusumoto et al. in U.S. Patent No. 6,242,291 teaches in column 12,line 53 using an energy beam with a dispersion of energy plus or minus 5% in a semiconductor film processing method.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey S Evans whose telephone number is (703)-308-1653. The examiner can normally be reached on Mon-Fri 6:30AM to 4:00 PM, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703)-308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9310 for regular communications and (703)-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0661.

Geoffrey S Evans
Primary Examiner
Art Unit 1725

GSE
May 1, 2003